B2

47. (Twice Amended) The method of claim 54 wherein said nuclear receptor ligand binding domain and said chemical are selected from the sets of (i) estrogen receptor and estradiol, (ii) glucocorticoid receptor and deoxycorticosterone, (iii) androgen receptor and dihydrotestosterone, (iv) progesterone receptor and progesterone, (v) thyroid hormone receptor and T3, (vi) retinoic acid receptor and all-*trans*-retinoic acid, and (vii) 9-cis-retinoic acid receptor and 9-*cis*-retinoic acid.

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48. (Amended) The method of claim 53 wherein expression of said reporter gene causes production of histidine.

49. (Amended) The method of claim 53 wherein said reporter gene is CAT.

50. (Amended) The method of claim 53 wherein said cells are yeast cells or human cells.

51. (Amended) The method of claim 53 wherein said nuclear receptor is capable of binding to an aromatase gene.

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53. (New) A method for screening for a protein and a chemical, wherein said protein and said chemical together interact with a nuclear receptor co-regulatory protein that (1) is capable of binding to a nuclear receptor or to a nuclear receptor ligand binding domain and (2) has a region according to SEQ ID NO: 5, wherein said method comprises:

(a) cotransfecting cells with

(i) a library of nucleic acids which encode said proteins to be screened,

(ii) a gene that encodes said co-regulatory protein, and

(iii) a reporter gene the expression of which depends upon said co-regulatory protein binding to said nuclear receptor or said nuclear receptor ligand binding domain

to produce a library of cells which express a library of proteins to be screened and said co-regulatory protein;

(b) growing a first portion of said cotransfected cells in the presence of said chemical to be screened;

(c) growing a second portion of said cotransfected cells in the absence of said chemical to be screened, wherein said second portion is a replicate of said first portion,

(d) comparing the level of expression of said reporter gene in individual colonies of cells of said first portion and said second portion; and

(e) optionally repeating steps (b) through (d) using one or more alternative chemicals to be screened,

wherein if a colony of said first portion of cells expresses said receptor gene at a higher level than its corresponding replicate colony of said second portion of cells, then said colony comprises a gene that encodes a protein that together with said screened chemical interacts with said co-regulatory protein.

54. (New) A method of claim 53 wherein said chemical is selected from the group consisting of a ligand, a hormone and a drug.

55. (New) A method for screening for a protein and a chemical, wherein said protein and said chemical together interact with a nuclear receptor co-regulatory protein that (1) is capable of binding to a nuclear receptor or to a nuclear receptor ligand binding domain and (2) has a region according to SEQ ID NO: 5, wherein said method comprises:

(a) cotransfecting cells with

(i) a library of nucleic acids which encode said proteins to be screened,

(ii) a gene that encodes said co-regulatory protein, and

(iii) a reporter gene the expression of which depends upon said co-regulatory protein binding to said nuclear receptor or said nuclear receptor ligand binding domain

to produce a library of cells which express a library of proteins to be screened and said co-regulatory protein;

(b) growing colonies of said cotransfected cells in the presence of said chemical to be screened;

(c) determining the level of expression of said reporter gene in individual colonies of said cotransfected cells; and

(d) optionally repeating steps (b) through © using one or more alternative chemicals to be screened,

wherein a colony of cells which expresses said receptor gene comprises a gene that encodes a protein that together with said screened chemical interacts with said co-regulatory protein.

REMARKS

Claims 43-52 are currently pending in this application. Claims 43 and 52 are cancelled and rewritten as new claims 53 and 55. Claims 44-51 are amended and claims 53-55 are added. Applicants respectfully request that the amendments be entered.

Claims 43-52 are rejected under 35 U.S.C. § 112, first paragraph for lack of sufficient written description. The Office Action states that the specification only provides for representative species of chemicals encompassed by the claims (estradiol, deoxycorticosterone, progesterone and retionic acid), and that a particular structure to function/activity relationship is not disclosed.

Applicants have rephrased the independent claims to make clear that the invention intended to be claimed is a method involving the screening of the chemicals also and not merely of screening proteins with a single chemical. Claims 43 and 52 are rewritten as new claims 53 and 55, respectively. Once this aspect of the invention is understood,